

I CLAIM:

1. A method of supporting a mobile host on an information network configured for multicast routing, comprising:

defining a subnet (U1) of the network that includes one or more mobile hosts and a first interface of a home router in the network, and identifying the first interface and the mobile hosts with corresponding unicast network addresses (U1.x);

identifying a second interface of the home router with a corresponding unicast network address (U2.x);

assigning the first interface of the home router and the mobile hosts corresponding group addresses (Mx) according to a defined relation with respect to said unicast network addresses;

mapping, at the second interface of the home router, unicast addresses of packets received at the second interface and destined to members of the subnet (U1), to the group addresses (Mx) assigned to the members of the subnet;

linking the mobile hosts with the network at corresponding points of attachment; and

sending a request from a given mobile host to join a group corresponding to a group address assigned to the given mobile host each time the mobile host links with the network at a new point of attachment, thereby enabling routers in the network

to track the mobile host as it moves its link with the network from one point of attachment to another, and to route unicast packets originating from a host outside the subnet and destined to a given mobile host, by way of a virtual link defined between the home router and the given mobile host.

2. The method of claim 1, including linking a given mobile host with the network by way of a wireless link with a base station that is connected to the network.

3. The method of claim 1, including linking a given mobile host with the network by using a modem that is connected to a public switched telephone network having a server which is linked with the information network.

4. The method of claim 4, including assigning the mobile hosts unique local addresses (Lx) corresponding to the current points of attachment of the mobile hosts with the information network.

5. The method of claim 4, wherein a local address is assigned to a given mobile host by a network router associated the host's current point of attachment with the network.

6. The method of claim 4, including transmitting information packets from a first mobile host on the subnet (U1) to a second mobile host on the subnet, by encapsulating the

packets with an encapsulating header whose destination address is the group address (Mx) assigned to the second mobile host.

7. The method of claim 6, including placing the local address (Lx) of the first mobile host as the source address in the encapsulating header.

8. The method of claim 7, including placing the unicast address (U1.x) of the second mobile host as the destination address in an encapsulated header of the packets, and placing the unicast address (U1.y) of the first mobile host as the source address in the encapsulated header.

9. The method of claim 4, including transmitting information packets from a given mobile host on the subnet (U1) to a host outside the subnet, by encapsulating the packets with an encapsulating header whose destination address is the group address (M1) assigned to the first interface of the home router.

10. The method of claim 9, including placing the local address (Lx) of the given mobile host as the source address in the encapsulating header.

11. The method of claim 10, including placing the unicast address (U2.x) of the host outside the subnet as the destination address in an encapsulated header of the packets, and placing the unicast address (U1.x) of the given mobile host as

the source address in the encapsulated header.

12. The method of claim 1, including transmitting multicast information packets from a given mobile host on the subnet to a group (G) of other hosts on the network, by encapsulating the packets with an encapsulating header whose destination address is the group address (M1) assigned to the first interface of the home router.

13. The method of claim 12, including placing the local address (Lx) of the given mobile host as the source address in the encapsulating header.

14. The method of claim 13, including placing the group address (G) of the other hosts as the destination address in an encapsulated header of the packets, and placing the unicast address (U1.x) of the given mobile host as the source address in the encapsulated header.